

ART 34 AMDT

002P13482WOUS

PCT/EP2003/009231

10/525153

DT01 Rec'd PCT/PTC 18 FEB 2005

1

New Claims

1. Method for the routing of data packets for avoiding circulation of the data packets, in a packet-switched network (N1), made up of
5 routers, which uses traffic distribution, in which
a data packet (IP packet) is forwarded by an internal router in the packet-switched network (N1), whereby alternatives are provided for the forwarding of the data packet, and the forwarding of the data packet
(IP packet) is carried out by reference at least to an item of data
10 (K1) about the access interface at which the data packet (IP packet) entered the packet-switched network (N1) and an item of data (K2) about the egress interface, at which the data packet (IP packet) is to leave the packet-switched network (N1).

15 2. Method according to Claim 1,
characterized in that
- at the access interface the data packet (IP packet) is supplied with items of identification data, by reference to which the internal router identifies the access interface and the egress interface.

20 3. Method according to Claim 2,
characterized in that
- the items of identification data include an identifier (K1, K2) or a network address for the access interface and the egress interface.

25 4. Method according to Claim 3,
characterized in that

ART 34 AMEND
- at the access interface the data packet (IP packet) is supplied with
at least one data field (IL, EL),
and

- the internal router takes from the data field or data fields (IL,
5 EL), as applicable, the data (K1) about the access interface at which
the packet (IP packet) entered the packet-switched network (N1) and the
data (K2) about its egress interface.

5. Method according to Claim 4,

10 characterized in that

- the data packet (IP packet) is supplied with a data field, where
-- the data field is added onto the data packet as a header or a
trailer,

-- the data field includes an identifier (K1, K2) for the access
15 interface and the egress interface.

6. Method according to Claim 4,

characterized in that

- the data packet (IP packet) is supplied with two data fields (IL,
20 EL), where

-- each of the data fields (IL, EL) is added to the data packet (IP
packet) as a header or a trailer,

-- one data field (IL) includes an identifier (K1) for the access
interface and the other data field (EL) includes an identifier (K2) for
25 the egress interface.

7. Method according to one of the Claims 5 or 6,

characterized in that

- a bit sequence (LC*) is appended to or prefixed to at least one data
30 field (IL, EL), identifying the data field (IL, EL) as such.

ART 34 AMDT

8. Method according to one of the Claims 5 or 7,
characterized in that

- at the ingress interface, the data packet (IP packet) is supplied
with at least one data field (IL, EL), and

5 - this data field (IL, EL) is removed again at the egress interface.

9. Method according to one of the Claims 4 to 8,
characterized in that

- at least one data field (IL, EL) is provided by an MPLS label.

10

10. Method according to Claim 3,
characterized in that

- the identification data is written into a field provided as part of
the format for the data packet.

15

11. Method according to one of the preceding Claims,
characterized in that

- the egress interface is referenced by an identifier (K2),

- the identifier (K2) of the egress interface is determined by

20 reference to a network address in the network (N3), to which the data
packet (IP packet) is to be forwarded after it has traversed the
packet-switched network (N1), and

- the determination of the identifier (K2) of the egress interface is
carried out at the ingress interface by reference to the network

25 address, using a table.

12. Method according to Claim 1,

characterized in that

- at the access interface the data packet (IP packet) is supplied with an item of identification data, by reference to which the internal router identifies the access interface,

- 5 - this item of identification data includes an identifier (K1) or a network address for the access interface, and
- the internal router determines the data (K2) about the egress interface by reference to items of address data extracted from the data packet.

10

13. Method according to Claim 1,
characterized in that

- the internal router determines the data (K1) about the access interface and the data (K2) about the egress interface by reference to
- 15 items of address data extracted from the data packet (IP packet).

14. Method according to one of the preceding Claims,
characterized in that

- the forwarding of the data packet (IP packet) is effected with the
- 20 help of a routing table, which assigns the data about the access interface at which the data packet (IP packet) entered the packet-switched network (N1) and the data (K2) about the egress interface to a network address for the next hop.

25 15. Method according to one of the preceding Claims,
characterized in that

- at the access interface the data packet (IP packet) is supplied with a data field for identifying the flow, and

- the forwarding of the data packet (IP packet) by the internal router is carried out as stipulated by the data field.

16. Internal router in a packet-switched network (N1) for performing a method according to one of the preceding Claims,

- with at least one routing table which assigns the data (K1) about the access interface at which the data packet (IP packet) entered the packet-switched network (N1) and the data (K2) about the egress interface to a network address for the next hop.